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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,096	03/30/2004	Kiu-hac Jung	1793.1212	3087
49455 7590 05/31/2007 STEIN, MCEWEN & BUI, LLP 1400 EYE STREET, NW SUITE 300 WASHINGTON, DC 20005			EXAMINER LAMB, CHRISTOPHER RAY	
			ART UNIT 2627	PAPER NUMBER
			MAIL DATE 05/31/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/812,096

Applicant(s)

JUNG ET AL.

Examiner

Christopher R. Lamb

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. In their arguments filed March 5th, 2007, page 11, Applicant references a reference referred to as Fox, and indicates the reference is identified in an accompanying Information Disclosure Statement. No IDS accompanied the remarks.

In a telephone conversation with Michael Stein, the attorney of record, it was indicated that Fox refers to Fox, "Tiny Optical Discs Could Store Five Movies," New Scientist, October 18th, 2002: a copy was faxed to the Examiner. To make the record clear, this article has been listed in the accompanying Notice of References Cited.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-39 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The claimed subject matter that is not enabled is the innermost and outermost radii of the disc-type recording medium.

The disclosure makes it clear the disc-type recording media are optical discs (for example, paragraph 3). There are several disc sizes disclosed. The first has an

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innermost radius of 6mm and an outermost radius of 22.5mm (as in paragraph 23). The second has an innermost radius of 6mm and an outermost radius of 14mm (as in paragraph 39).

These radii are significantly smaller than those of the prior art. Typical optical discs (e.g., CDs or DVDs) are much larger in size. A mini-disc has an innermost radius of 16mm, so the disclosed disc is significantly smaller than it as well.

Because of the significant difference between the disc size disclosed by the Applicant, and the disc size known in the prior art, it would require undue experimentation for one of ordinary skill to make and/or use the invention.

In making this rejection, the Examiner has weighed, among others, the following factors:

(A) The nature of the invention: The entire purpose of the invention appears to be directed toward sync codes for discs of the disclosed size. See, for example, paragraph 3: "as optical disc-type recording media are developed so as to improve their recording densities and minimize their sizes, their diameters become smaller. A reduction in the diameter of a disc increases the ratio of the radius..."

(B) The state of the prior art: none of the prior art of record discloses optical discs of this size (except for Fox, cited by Applicant in their arguments: see the Response to Arguments section for a discussion of this reference).

(C) The amount of direction provided by the inventor: the inventor provides no direction whatsoever except to state the radii.

(H) The quantity of experimentation needed to make and or use the invention based on the content of the disclosure: the amount of experimentation necessary is overwhelming, as one of ordinary skill would need to design and build an entirely new type of optical disc as well as an apparatus to read and record from it.

These radii are specifically claimed in, for example, claim 6, but all the claims rely upon recording to a disc of this small size, and thus none of the claims are enabled.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1:

This claim recites the limitation wherein the length of a pattern in a sync code is "based upon" a value obtained by dividing the outermost circumference radius of the disc by the innermost circumference radius.

This language is indefinite because it is unclear what it means to be "based upon" this value.

For a claim to particularly point out and distinctly claim the subject matter of the invention, the metes and bounds of the claim must be clear to one of ordinary skill in the art. It is not clear from the claim what patterns would be considered "based upon" this value and what patterns would not be.

From the specification, it is clear that in the invention, the pattern in the sync code is longer than the value obtained by dividing the two radii. In one embodiment, for example, the value is $22.5/6$ or 3.75 ; the pattern length in the sync code is $4T$.

However, the claim is not clear. Given an obtained value of 3.75 , would a value of $3T$ be considered "based upon" it? Would a value of $5T$? Furthermore, since the pattern length must be an integer multiple of a clock time (e.g., $3T$, $4T$), and the obtained value is not an integer, it is unclear whether the value that the pattern is based upon is the actual, exact value obtained by the division of the radii, or the closest integer value to it.

Regarding claims 2-35:

They are dependent on claim 1 or contain language similar to that of claim 1.

Regarding claims 36-39:

These claims recite the limitation wherein the sync code is generated "in consideration of" a ratio of the innermost circumference radius and the outermost circumference radius.

The phrase "in consideration of" is similar to "based upon," and is similarly unclear.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 30-34 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims are directed to "a computer-readable recording medium." In the specification, as newly amended, a computer-readable recording medium is defined as "a computer data signal embodied in a carrier wave comprising a compression source code segment and an encryption source code segment (such as data transmission through the Internet)." A carrier wave is non-statutory subject matter.

See the "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility," especially pages 55-57.

Response to Arguments

8. Applicant's arguments filed March 5th, 2007 have been fully considered.
9. With regards to the rejection under 35 U.S.C. 101, Applicant's arguments are not persuasive.

Applicant amended the specification to overcome this rejection. However, the amended specification still defines a computer-readable medium as "a computer data signal embodied in a carrier wave comprising a compression source code segment and an encryption source code segment (such as data transmission through the Internet)."

A carrier wave does not fall into any of the statutory classes specified in 35 U.S.C. 101. Although Applicant's definition now includes "a compression source code segment" and "an encryption source code segment," it is not clear what these segments are, or how they would render the carrier wave statutory.

See the "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility," especially pages 55-57.

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10. With regards to the rejection under 35 USC 112, first paragraph, Applicant's arguments are not persuasive.

Applicant cites Fox, "Tiny Optical Disc Could Store Five Movies," to prove that discs of the claimed size were known in the art at the time of the invention.

However, the article states that Phillips "has been secretly researching the technology." A report of secret research is not an indication that one of ordinary skill in the art would have been familiar with the technology: in fact, it argues to the contrary.

The article does disclose some details of the disc size and focusing technology, but this brief mention is not sufficient to enable one of ordinary skill to make and/or use the claimed invention.

The Examiner has conducted a search based upon the terminology disclosed in the article, and has not found evidence that discs of the claimed size were known to one of ordinary skill in the art at the time of the invention.

Furthermore, the disc size disclosed in the article is not the size claimed by Applicant. Fox discloses a disc 34 mm wide, and thus a radius of 17 mm: the Applicant claims an outer circumference radius of 22.5 mm: thus Applicant's disc is not the same size as the one disclosed by Fox. Applicant argues that "a disc with an outermost radius of 15 millimeters is well within the ranges disclosed in the specification," but the specification does not disclose a range, but instead two specific sizes. The first size disclosed in the specification has an outer radius of 22.5 mm; the second size disclosed is an outer radius of 14 mm. Neither size is the one disclosed by Fox.

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11. Regarding the rejections under 35 USC 102 and 103, Applicant's arguments have been found persuasive.

The prior art of record does not disclose wherein the sync pattern length is "based upon" or chosen "in consideration of" the ratio of the outermost to innermost radius.

However, these claims are newly rejected under 35 USC 112, second paragraph, as noted above.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Lamb whose telephone number is (571)

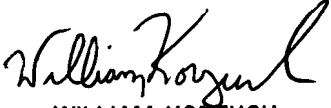
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272-5264. The examiner can normally be reached on 9:00 AM to 6:30 PM Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CRL 5/21/07


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